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Prescribed by ANSI Std Z39-18

The real "RMA"?

Int

Opponents' Perceptions

Internal politics

Campaign Objectives

Game Theory & Crisis Management

C2

Rehearsal

C2

Information Operations

Opponents' model of the real world

Counter ISTAR

Mission Plans

C2

Combat Action

Effectors

ISTAR

Prediction

BDA etc

Target acquisition

THE REAL WORLD

Our model of the real world

ISTAR

Public Affairs

Media

Stakeholders' Perceptions

Communications

Meeting C4ISTAR Challenges

Andrew Sleigh

RUSI C4ISTAR Conference, Malvern September 2002

25.09.2002

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Meeting the NCC challenge
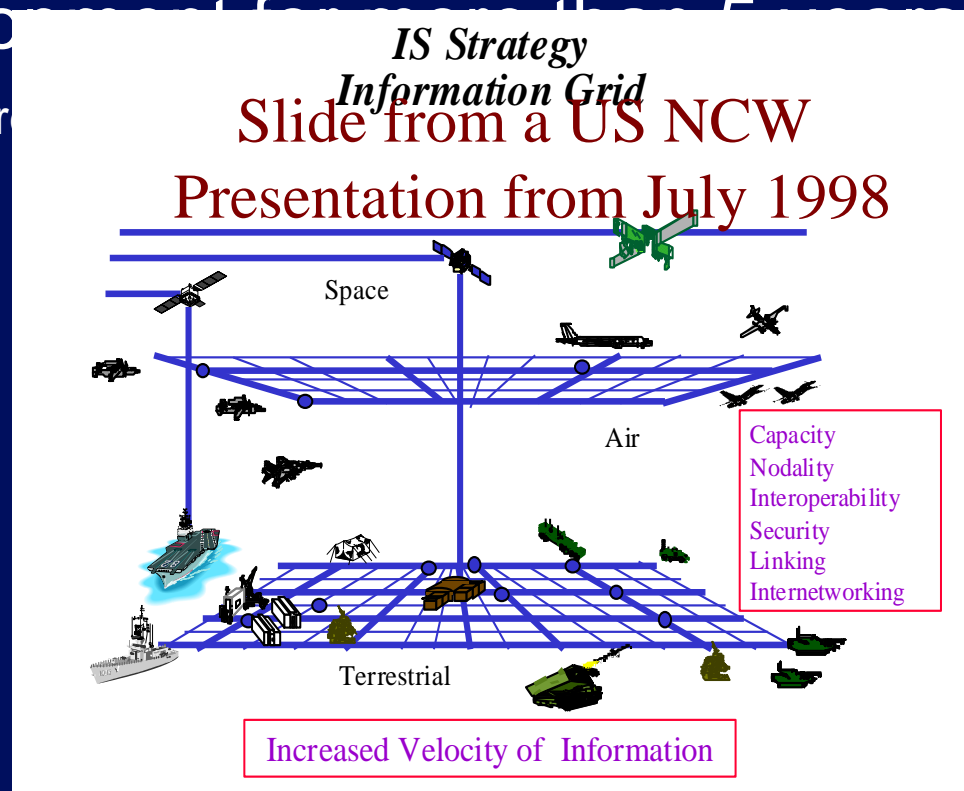*"making network centric capability real"*

- I will cover two aspects

  – Where the opportunities lie

  – Steps to realise the outcomes - a personal view

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Meeting the NCC challenge
"making network centric capability real"

- "Network Centricity" has been a concept in development for more than 5 years
  - US pr~~~~~~~~~998

IS Strategy
Information Grid

Slide from a US NCW
Presentation from July 1998

Space

Air

Capacity
Nodality
Interoperability
Security
Linking
Internetworking

Terrestrial

Increased Velocity of Information

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Meeting the NCC challenge
"making network centric capability real"

- "Network Centricity" has been a concept in development for more than 5 years
  - US presentation on NCW to UK Chiefs of Staff in 1998

- SDR98 referenced the underpinning ideas:
  - *"Although not new, Joint Operations are now more critical than ever"*
  - *"Success demands Joint Teamwork supporting shared military objectives"*
  - *"Fighting forces need the Single Service ethos, but force success demands effective orchestration of individual components"*
  - *"A Joint approach is central to defence activity and requires closer integration across the full spectrum of activity"*

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  - *"Fighting forces need the Single Service ethos, but force success demands effective <u>orchestration</u> of individual components"*
  - *"A Joint approach is central to defence activity and requires closer <u>integration</u> across the full spectrum of activity"*

- The New Chapter raises the priority to realise these objectives

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Section 1

Where the NCC opportunities lie

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Where NCC opportunities lie

- **Information coherence**
  - Shifting the right information between sensors, deciders and effectors

- **Capability Integration**
  - New concepts in military effect born from network enabled ways of marshalling capabilities

- **Orchestration**
  - Radical developments in command doctrine

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Information coherence

- Flexibility in moving data rapidly and securely

- Effective assembling of information to be readily usable by the right deciders and effectors

- Human interfaces that enhance cognition

Capability integration

- New capabilities by inter-linking existing equipment and force elements (meta-capabilities)

- Rationalisation of inventory to optimise capability overlaps and logistics

- Tying together diplomatic, defence, civil agency and public awareness operations

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Orchestration

- New models for command structures

- Command organised by meta-capability?

- Different styles of command decision engaging more inputs

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Section 2

The route to realising NCC opportunities

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The route to NCC: Information coherence

- Comms plumbing broadly OK
  - providing current projects enter service successfully

- Solve the issues in the interstices between systems
  - Quick fixes drawn from experimentation

- Need for substantial progress on techniques and doctrine for secure sharing

- Information management
  - people who prepare information, manage search/mining tools, steering information between sensors and effectors in military networks

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The route to NCC: Capability integration

- Need to reinvent Capability Working Groups to innovate high level capabilities "on top of" current concepts

- The Three 'E's
  - Explore the concepts
  - Rapid development through Experimentation
  - Early Exploitation

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The route to NCC: Orchestration

- ## Create a "Doctrine Laboratory", bringing together
  - Best thinkers in how to manage crises in the round
  - Incisive analysis of implications of science and technology
  - Methods and tools to experiment with high level command issues
  - Simulation and battlelabs to experiment with details in operational command

- ## Establish "Information Doctrine" as a recognised sub-discipline

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From TRICIS July 1998

"Information doctrine"

- ❑ That sub-set of joint doctrine and operating procedures which define how information is exploited & managed eg:
  - how secure information domains are mapped to force structure
  - processes for releasing information to coalition partners
  - processes for developing and disseminating operational estimates
  - forming joint recognised picture
  - which functions are enabled to whom
  - tactics for pushing and pulling information
  - responses to cyber-attack
  - approach to tactical interoperability between environments or nations

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A Joint Experimentation Plan
a plank that supports a major part of the NCC waterfront

- Define the concepts to be explored, the supporting experiments, the facilities required and the players

- Illustrative classes of problems to be addressed
  - How must the infrastructure be adapted to allow information to be exchanged horizontally across the battlespace?
  - How to enable data exchanges to ensure that information is accessible at the right place at the right time to the right people?
  - How to re-engineer HQ organisations and platforms to take advantage of new ways of working

- Held as a central part of MoD's capability strategy, tied into capability development and IPTs,
  - funded by bringing forward Equipment Programme funding assuming

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Closing points

- Focus the *Capability Opportunities* of NCC, not solutions

- *Experimentation* is the key technique to discover and implement capability opportunities

- Equipment implications largely to do with *interstices,* will be defined by experimentation

- Critical gaps needing a shift in investment:
  - Security
  - Human interfaces

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What we must all do...

NCC will become a reality only by a new model for working emerging between and within:

> DECs
> IPTs
> Customer 2s
> Doctrine and policy
> Industry manufacturers and solutions generators
> Independent defence analysts

The key step now is to establish a new modus operandi that enables these communities to interact in a creative and focused way

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